Table 060: Muons in Neodymium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
60 (Nd)	144.242 (3)	6.900	546.0	0.23530	2.7050	0.1984	3.3063	5.8290	0.14

T	p [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm^2]
		[MeV cm^2/g]					
10.0 MeV	4.704×10^1	4.388				4.388	1.303×10^0
14.0 MeV	5.616×10^1	3.477				3.477	2.337×10^0
20.0 MeV	6.802×10^1	2.753				2.753	4.297×10^0
30.0 MeV	8.509×10^1	2.164				2.164	8.447×10^0
40.0 MeV	1.003×10^2	1.863				1.863	1.346×10^1
80.0 MeV	1.527×10^2	1.421				1.421	3.878×10^1
100. MeV	1.764×10^2	1.343				1.343	5.330×10^1
140. MeV	2.218×10^2	1.269				1.269	8.406×10^1
200. MeV	2.868×10^2	1.235				1.235	1.321×10^2
239. MeV	3.285×10^2	1.231	0.000			1.231	*Minimum ionization*
300. MeV	3.917×10^2	1.236	0.000		0.000	1.237	2.132×10^2
400. MeV	4.945×10^2	1.256	0.000		0.000	1.256	2.935×10^2
800. MeV	8.995×10^2	1.342	0.001		0.000	1.343	6.010×10^2
1.00 GeV	1.101×10^3	1.376	0.001		0.000	1.377	7.480×10^2
1.40 GeV	1.502×10^3	1.430	0.002	0.000	0.001	1.433	1.033×10^3
2.00 GeV	2.103×10^3	1.488	0.003	0.001	0.001	1.494	1.442×10^3
3.00 GeV	3.104×10^3	1.554	0.006	0.003	0.001	1.564	2.095×10^3
4.00 GeV	4.104×10^3	1.600	0.008	0.006	0.002	1.616	2.724×10^3
8.00 GeV	8.105×10^3	1.703	0.020	0.019	0.003	1.745	5.097×10^3
10.0 GeV	1.011×10^4	1.734	0.026	0.027	0.004	1.791	6.227×10^3
14.0 GeV	1.411×10^4	1.778	0.040	0.043	0.005	1.867	8.413×10^3
20.0 GeV	2.011×10^4	1.822	0.063	0.070	0.007	1.963	1.155×10^4
30.0 GeV	3.011×10^4	1.868	0.102	0.123	0.011	2.105	1.646×10^4
40.0 GeV	4.011×10^4	1.898	0.145	0.180	0.015	2.239	2.107×10^4
80.0 GeV	8.011×10^4	1.966	0.327	0.434	0.029	2.756	3.713×10^4
100. GeV	1.001×10^5	1.986	0.423	0.570	0.036	3.016	4.407×10^4
140. GeV	1.401×10^5	2.016	0.622	0.851	0.050	3.539	5.630×10^4
180. GeV	1.803×10^5	2.038	0.828	1.147	0.064	4.077	*Muon critical energy*
200. GeV	2.001×10^5	2.047	0.932	1.296	0.070	4.346	7.158×10^4
300. GeV	3.001×10^5	2.081	1.461	2.039	0.106	5.688	9.165×10^4
400. GeV	4.001×10^5	2.106	2.008	2.809	0.141	7.065	1.074×10^5
800. GeV	8.001×10^5	2.165	4.266	5.966	0.285	12.683	1.491×10^5
1.00 TeV	1.000×10^6	2.185	5.425	7.580	0.358	15.549	1.633×10^5
1.40 TeV	1.400×10^6	2.214	7.750	10.801	0.507	21.273	1.852×10^5
2.00 TeV	2.000×10^6	2.246	11.304	15.716	0.733	30.000	2.089×10^5
3.00 TeV	3.000×10^6	2.282	17.238	23.882	1.120	44.524	2.361×10^5
4.00 TeV	4.000×10^6	2.308	23.250	32.135	1.514	59.208	2.555×10^5
8.00 TeV	8.000×10^6	2.373	47.485	65.308	3.145	118.312	3.023×10^5
10.0 TeV	1.000×10^7	2.394	59.696	81.982	3.982	148.056	3.174×10^5
14.0 TeV	1.400×10^7	2.427	84.051	115.253	5.700	207.432	3.401×10^5
20.0 TeV	2.000×10^7	2.461	120.796	165.370	8.332	296.961	3.642×10^5
30.0 TeV	3.000×10^7	2.502	181.968	248.756	12.879	446.106	3.915×10^5
40.0 TeV	4.000×10^7	2.531	243.356	332.338	17.532	595.759	4.108×10^5
80.0 TeV	8.000×10^7	2.603	489.264	666.903	36.958	1195.729	4.573×10^5
100. TeV	1.000×10^8	2.626	612.420	834.340	46.990	1496.378	4.722×10^5